

REMARKS

Entry of this preliminary amendment prior to examination is respectfully requested. After entry of the preliminary amendment, claims 1-6, 8-11, 13, 14 and 17-22 are pending.

The specification is amended at page 13, line 12 to replace a clerical error in the recited species. Support for this amendment is found in the application as filed, at page 42, lines 3-11, which correctly identify compound 3a as "1-(2-6-chloro-1H-indol-3-yl)-4-(1H-indol-4-yl) piperidine."

The specification is also amended at page 28, lines 21-27, to correct the title of the paragraph, to recite "5-fluorobenzofuran-3-yl acetic acid." Support for this amendment is found at page 29, lines 24-25.

The specification is further amended at page 31, line 20, to correct an obvious clerical error.

Claim 1 is amended to limit the claims to the subject matter restricted out of parent application serial no. 09/719,849, to recite that W is C, CH or COH. Claim 13 is amended to delete the species not covered in this application. Claims 7 and 12, which did not cover the restricted subject matter, are canceled.

Non-statutory "use" claims 15 and 16 are canceled.

Claim 1 is also amended to improve clarity by deleting the expression "and/or," and replace same with "or." This amendment does not change the scope

Dated: January 15, 2002

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File No.: 5432/1H967US1

**IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE**

In Re Application of:

Date: January 15, 2002

MOLTZEN, et al.

Serial No: To be assigned (Divisional Application of U.S. Patent Application
Serial No. 09/719,849, Filed February 2, 2001)

Filed: Concurrently herewith

For: 4,5,6 AND 7-INDOLES AND INDOLINE DERIVATIVES, THEIR
PREPARATION AND USE

**MARKUP TO PRELIMINARY AMENDMENT
UNDER 37 C.F.R. §1.121**

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

Sir:

IN THE SPECIFICATION

Page 13, line 12:

1-(2-(6-Chloro-1H, indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperidine;

Page 28, line 21:

C. Preparation of 5-fluorobenzofuran-3-yl acetic acid.

Please replace the fourth full paragraph, page 31, lines 15-20 with the following:

1d, 1-(4-(5-Fluoro-3-benzofuranyl)-1-butyl)-4-(1H-indol-4-yl)piperazine, dihydrochloride.

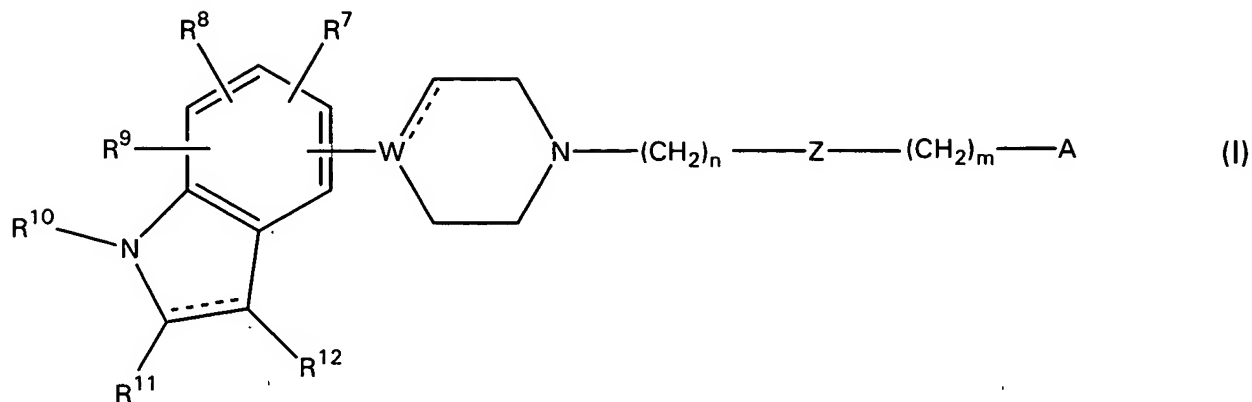
Mp 241-44°C, ¹H NMR (DMSO-d₆): 1.65-1.95 (m, 4H); 2.70 (t, 2H); 3.15-3.40 (m, 6H); 3.60 (d, 2H); 3.70 (d, 2H); 6.50 (s, 1H); 6.55 (d, 1H); 7.00 (t, 1H); 7.10 (d, 1H); 7.15 (dt, 1H); 7.30 (t, 1H); 7.45-7.60 (m, 2H); 7.90 (s, 1H); 10.95 (b, 1H); 11.20 (s, 1H). MS m/z (%): 392 ([MH⁺], 90%), 234 (19%), 199 (23%), 163 (49%), 131 (11%).

IN THE CLAIMS

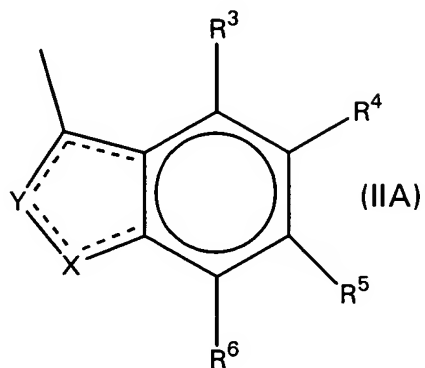
Please amend claims 1, 6, 11, 13, 14, 17 and 18 as follows.

1. (Amended) A substituted 4-, 5-, 6-, or 7-indole or indoline derivative of
Formula

wherein W is [N,] C, CH or COH and the dotted lines indicate optional bonds and



wherein A is a group having the formula



wherein X is CR^{1A}, CHR^{1A}, N, NR^{1B}, O, or S, where R^{1A} is as defined for R³ to R⁹ below, and where R^{1B} is as defined for R¹⁰ below;

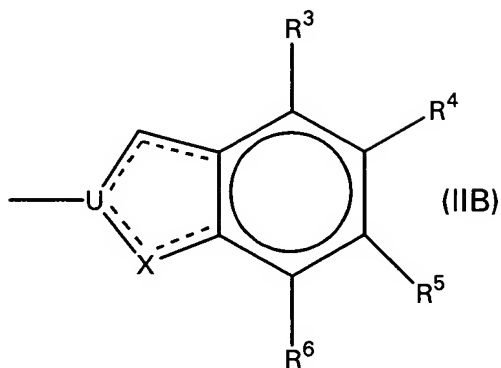
Y is CR^{2A}, CHR^{2A}, N, NR^{2B}, O, or S, where R^{2A} is as defined for R³ to R⁹ below

and where R^{2B} is as defined for R^{10} below, and

the dotted lines indicate optional bonds;

provided that X and Y are not both O or S;

A is a group having the formula

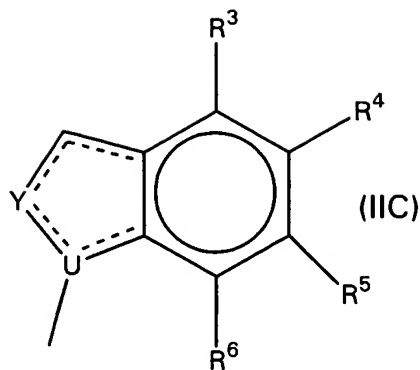


wherein X is CR^{1A} , CHR^{1A} , N, NR^{1B} , O, or S, where R^{1A} is as defined for R^3 to R^9 below, and where R^{1B} is as defined for R^{10} below;

U is C, CH, or N; and

the dotted lines indicate optional bonds; or

A is a group having the formula



wherein U is C, CH, or N;

Y is CR^{2A} , CHR^{2A} , N, NR^{2B} , O, or S, where R^{2A} is as defined for R^3 to R^9 below and where R^{2B} is as defined for R^{10} below; and

the dotted lines indicate optional bonds;

n is 0, 1, 2, 3, 4, or 5, and m is 0, 1, 2, 3, 4, or 5;

Z is CH_2 , O, S, CO, SO, or SO_2 , provided that if n is 0 then Z is CH_2 ;

R^3 - R^9 and R^{11} to R^{12} are independently selected from hydrogen, halogen, cyano, nitro, C_{1-6} -alk(en/yn)yl, C_{1-6} alkoxy, C_{1-6} alkylthio, hydroxy, hydroxy- C_{1-6} -alkyl, C_{1-6} alkoxycarbonyl, C_{3-8} cycloalk(en)yl, C_{3-8} -cycloalk(en)yl- C_{1-6} -alk(en/yn)yl, C_{1-6} alkylcarbonyl, phenylcarbonyl, halogen substituted phenylcarbonyl, trifluoromethyl,

trifluoromethylsulfonyloxy, C₁₋₆ alkylsulfonyl, aryl and heteroaryl, [and/or] or two adjacent groups taken from R³ - R⁹ may together form a methylenedioxy group, [and/or] or two adjacent groups R⁷ - R⁹ may together form a cyclopentyl or cyclohexyl ring which may be substituted with one or more methyl groups, [and/or] or one of R³-R⁹ may alternatively be a group -NR¹³R¹⁴ wherein R¹³ is as defined for R¹⁰ below and R¹⁴ is hydrogen, C₁₋₆ alk(en/yn)yl, C₃₋₈-cycloalk(en)yl, C₃₋₈-cycloalk(en)yl-C₁₋₆ alk(en/yn)yl, aryl, heteroaryl, aryl-C₁₋₆ alkyl, or heteroaryl-C₁₋₆-alkyl;

R¹⁰ is

- hydrogen, C₁₋₆ alk(en/yn)yl, C₃₋₈-cycloalk(en)yl, C₃₋₈ cycloalk(en)yl-C₁₋₆-alk(en/yn)yl, aryl, heteroaryl, aryl-C₁₋₆ alkyl, heteroaryl-C₁₋₆- alkyl, acyl, thioacyl, C₁₋₆-alkylsulfonyl, trifluoromethylsulfonyl; arylsulfonyl, or heteroarylsulfonyl;
- R¹⁵VCO- wherein V is O or S and R¹⁵ is C₁₋₆-alk(en/yn)yl, C₃₋₈ cycloalk(en)yl, C₃₋₈-cycloalk(en)yl-C₁₋₆-alk(en/yn)yl, aryl, or heteroaryl; or
- a group R¹⁶R¹⁷NCO- or R¹⁶R¹⁷NCS- wherein R¹⁶ and R¹⁷ are independently selected from hydrogen, C₁₋₆ alk(en/yn)yl, C₃₋₈ cycloalk(en)yl, C₃₋₈ cycloalk(en)yl-C₁₋₆-alk(en/yn)yl, heteroaryl, or aryl, or R¹⁶ and R¹⁷ together with the N-atom to which they are linked, form a pyrrolidinyl, piperidinyl, morpholinyl, or perhydroazepin group;

or an acid addition salt thereof.

6. (Amended) A compound according to [claims 1 to 5] claim 1 wherein Z is CH₂ and n + m is 0, 1, 2, 3, 4, 5, or 6.

11. (Amended) A compound of [claims 1-10] claim 1 wherein Z is CH₂ and n + m is 0, 1, 2, 3, 4, 5, or 6 and R³-R⁹ and R¹¹-R¹² is hydrogen, halogen, cyano, nitro, C₁₋₆-alkyl, C₁₋₆-alkoxy, hydroxy, hydroxy-C₁₋₆-alkyl, C₁₋₆-alkoxycarbonyl and trifluoromethyl; and R¹⁰ is hydrogen.

13. (Amended) A compound according to claim 1 which is

[1-(2-(3-Benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(3-Benzofuranylmethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(5-Fluoro-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(4-(5-Fluoro-3-benzofuranyl)-1-butyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(1H-Indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(3-(1H-Indol-3-yl)-1-propyl)-4-(1H-indol-4-yl)piperazine,

1-(4-(1H-Indol-3-yl)-1-butyl)-4-(1H-indol-4-yl)piperazine,

1-(3-(5-Fluoro-3-benzofuranyl)-1-propyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(2-Methyl-4,5,6,7-tetrafluoro-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(3-Indazolyl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(6-Chloro-3-indazolyl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(7-Cyano-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(4-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(5-Fluoro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,]
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)-1,2,3,6-
 tetrahydropyridine,
 1-(2-(5-Fluoro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)-1,2,3,6-
 tetrahydropyridine, to
 [1-(2-(7-Bromo-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,
 1-(1-Allyl-1H-indol-4-yl)-4-(2-(6-chloro-1H-indol-3-yl)ethyl)piperazine,
 1-(1-Allyl-1H-indol-4-yl)-4-(2-(5-fluoro-1H-indol-3-yl)ethyl)piperazine,
 1-(1-Benzyl-1H-indol-4-yl)-4-(2-(6-chloro-1H-indol-3-yl)ethyl)piperazine,
 1-(1-Benzyl-1H-indol-4-yl)-4-(2-(5-fluoro-1H-indol-3-yl)ethyl)piperazine,
 1-(1-Benzyl-1H-indol-4-yl)-4-(2-(5-bromo-1H-indol-3-yl)ethyl)piperazine,
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1-propargyl-1H-indol-4-yl)piperazine,
 1-(2-(1H-Indol-3-yl)ethyl)-4-(1-propargyl-1H-indol-4-yl)piperazine,
 1-(2-(5-Fluoro-1H-indol-3-yl)ethyl)-4-(1-propargyl-1H-indol-4-yl)piperazine,
 1-(2-(5-Bromo-1H-indol-3-yl)ethyl)-4-(1-propargyl-1H-indol-4-yl)piperazine,
 1-(1-Benzyl-1H-indol-4-yl)-4-(2-(1H-indol-3-yl)ethyl)piperazine,

1-(2-(5-Bromo-1H-indol-3-yl)ethyl)-4-(1H-indol-5-yl)piperazine,
 1-(2-(5-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-5-yl)piperazine,
 1-(2-(5-Fluoro-1H-indol-3-yl)ethyl)-4-(6-hydroxymethyl-1H-indol-4-yl)piperazine,
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(6-hydroxymethyl-1H-indol-4-yl)piperazine,
 1-(2-(5-Bromo-1H-indol-3-yl)ethyl)-4-(6-hydroxymethyl-1H-indol-4-yl)piperazine,
 1-(3-(6-Fluoro-1,2-benzisoxazol-3-yl)-1-propyl)-4-(1H-indol-4-yl)piperazine,
 1-(2-(1H-Indol-3-yl)ethyl)-4-(6-methoxycarbonyl-1H-indol-4-yl)piperazine,
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(6-methoxycarbonyl-1H-indol-4-yl)piperazine,
 1-(2-(5-Fluoro-3-benzofuranyl)ethyl)-4-(6-methoxycarbonyl-1H-indol-4-yl)piperazine,
 1-(5-Fluoro-3-benzofuranylmethyl)-4-(1H-indol-4-yl)piperazine,
 1-(3-Cyano-1H-indol-4-yl)-4-(2-(1H-indol-3-yl)ethyl)piperazine,
 1-(3-Cyano-1H-indol-4-yl)-4-(2-(5-fluoro-3-benzofuranyl)ethyl)piperazine,
 1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(3-cyano-1H-indol-4-yl)piperazine,
 1-(2-(3-Benzofuranyl)ethyl)-4-(3-cyano-1H-indol-4-yl)piperazine,
 1-(1H-Indol-4-yl)-4-(2-(5-methyl-3-benzofuranyl)ethyl)piperazine,
 1-(1H-Indol-4-yl)-4-(2-(4-methyl-3-benzofuranyl)ethyl)piperazine,]

1-(3-(5-Fluoro-3-benzofuranyl)-1-propyl)-4-(1H-indol-4-yl)-1,2,3,6-tetrahydropyridine,

[1-(2-(5-Chloro-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(1H-Indol-4-yl)-4-(2-(6-methyl-3-benzofuranyl)ethyl)piperazine,

1-(2-(7-Chloro-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(4-Chloro-1H-indol-3-yl)ethyl)-4-(3-cyano-1H-indol-4-yl)piperazine,]

1-(2-(6-Chloro-1H-indol-3-yl)-4-(1H-indol-4-yl)piperidine,

[1-(2-(5-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(7-Bromo-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(4-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(6-Trifluoromethyl-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(1H-Indol-4-yl)-4-(2-(5-methyl-1H-indol-3-yl)ethyl)piperazine,

1-(1H-Indol-4-yl)-4-(2-(6-methyl-1H-indol-3-yl)ethyl)piperazine,

1-(1H-Indol-4-yl)-4-(2-(7-methyl-1H-indol-3-yl)ethyl)piperazine,

1-(2-(4,5-Dichloro-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,

1-(2-(5-Bromo-3-benzofuranyl)ethyl)-4-(1H-indol-4-yl)piperazine,]

1-(2-(4-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-4-yl)piperidine,

4-(1H-Indol-4-yl)-1-(2-(5-methyl-1H-indol-3-yl)ethyl)piperidine,

4-(1H-Indol-4-yl)-1-(2-(1H-indol-3-yl)ethyl)piperidine,

[1-(1H-Indol-4-yl)-4-(3-(4-methyl-3-benzofuranyl)-1-propyl)piperazine,]

4-(1H-Indol-4-yl)-1-(3-(4-methyl-3-benzofuranyl)-1-propyl)piperidine,

[1-(3-(4-Chloro-3-benzofuranyl)-1-propyl)-4-(1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(6-chloro-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(6-fluoro-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(6-cyano-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(7-chloro-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(7-cyano-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(2-cyano-1H-indol-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indolin-4-yl)piperazine,
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-6-yl)piperazine and
1-(2-(6-Chloro-1H-indol-3-yl)ethyl)-4-(1H-indol-7-yl)piperazine] or a
pharmaceutically acceptable acid addition salt thereof.

14. (Amended) A pharmaceutical composition comprising a compound according to [claims 1 to 13] claim 1 or a pharmaceutically acceptable acid addition salt thereof and at least one pharmaceutically acceptable carrier or diluent.

17. (Amended) A method for the treatment of a disorder or disease of a living animal body, [including a human,] which is responsive to the inhibition of serotonin reuptake and antagonism of 5-HT_{1A} receptors comprising administering to such a living animal body, [including a human,] a therapeutically effective amount of a compound according to [claims 1 to 13] claim 1 or a pharmaceutically acceptable

acid addition salt thereof.

18. (Amended) A method for the treatment of an affective disorder[, including depression psychosis, anxiety disorders including general anxiety disorder and panic disorder and obsessive compulsive disorder] in a living animal body, [including a human,] comprising administering a therapeutically effective amount of a compound according to [claims 1 to 13] claim 1 or a pharmaceutically acceptable acid addition salt thereof.

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